



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,605	05/10/2001	Charles Osborn Reade	FHW-081US	5768
959	7590	10/13/2006	EXAMINER	
LAHIVE & COCKFIELD			HEINRICH, SAMUEL M	
28 STATE STREET			ART UNIT	
BOSTON, MA 02109			PAPER NUMBER	

1725

DATE MAILED: 10/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/831,605	Applicant(s) READE, CHARLES OSBORN	
	Examiner Samuel M. Heinrich	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 16-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over FR526178A in view of USPN 2,068,421 to Long et al. FR526178A discloses (Figures 1 and 3) a flame arrester comprising a flow passage in which is disposed a two dimensional array of adjacent section rods, each being generally co-aligned and arranged transverse to the flow direction, such that fluids flowing in the passage must pass between the rods. FR526178A describes (p.1, lines 49-51) describe the rods can have any polygonal shape. Long et al disclose (Figures 6 and 7) circular section rods (29). It would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art that a circular cross section would also be possible because the shape is known in the art and is simply a variation of the polygonal disclosed by FR526178A.

With respect to (WRT) claim 8, Long et al show (Figures 4-7) an offset array which requires a circuitous flow path. WRT claim 9, the arrays in Figures 6 and 7 are arranged with an approximate 60 degree offset. WRT claims 16-18, assembly items for attaching a rod or tube to a mounting or to an inflow or outflow feed device are known in the art, and the use of flow reducers or flanges would have been obvious at the time

Art Unit: 1725

applicant's invention was made to a person having ordinary skill in the art because the tube and/or rod fittings are well known for mounting and for adapting for input/output sizes.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over FR526178A in view of USPN 2,068,421 to Long et al as applied to claim 1 above, and further in view of WO9205946A. WO9205946A discloses (use/advantage) the use of either pipe or rod for a flame arrestor. The use of either element in the Long et al apparatus would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because both configurations provide adequate flame arrest function.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over FR526178A in view of USPN 2,068,421 to Long et al as applied to claim 6 above, and further in view of JP403054354A. The use of fins is well known as disclosed by JP403054354A and the use thereof in the Long et al device would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the fins provide a greater degree of heat transfer to the element array.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over FR526178A in view of USPN 2,068,421 to Long et al as applied to claim 1 above, and further in view of USPN 5,331,943 to Ko. Ko discloses (Figures 14(A) and 14(B)) the use of a scraper. The use of a scraper in a rod or tube array would have been obvious at the time applicant's invention was made to a person having ordinary skill in

Art Unit: 1725

the art because the scraper provides a clear flow passage and provides good heat transfer surface. The scraper described by Ko is a manual device.

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over FR526178A in view of USPN 2,068,421 to Long et al and in view of USPN 5,331,943 to Ko as applied to claim 10 above, and further in view of USPN 4,437,968 to Elliott, Jr. Elliott, Jr. disclose (column 11, lines 49-60) the use of a timer controlled scraper. The use of a timer controlled scraper in a tube or rod apparatus such as disclosed by Long et al as modified by Ko would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the timer provides automated cleaning and reduces manual monitoring.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-6, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 2,068,421 to Long et al for the same reasons as set forth in the last Office action; because Long et al show (Figures 4-7) a flame arrestor comprising a two dimensional array of adjacent circular section rods, being generally co-aligned and arranged transverse to the flow direction, such that fluids flow between the rods.

Claims 8, 9, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 2,068,421 to Long et al for the same reasons as set forth in

Art Unit: 1725

the last Office action. With respect to (WRT) claim 8, Long et al show (Figures 4-7) an offset array which require a circuitous flow path. WRT claim 9, the arrays shown in Figures 6 and 7 are arranged with an approximate 60 degree offset. WRT claim 16-18, the assembly items for attaching a rod or tube to a mounting or to an inflow or outflow feed device are known in the art, and the use of flow reducers or flanges would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the tube and/or rod fittings are notoriously well known for mounting and for adapting for input/output sizes.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 2,068,421 to Long et al as applied to claim 1 above, and further in view of WO9205946A for the same reasons as set forth in the last Office action. WO9205946A discloses (USE/ADVANTAGE) the use of either pipe or rod for a flame arrestor. The use of either element in the Long et al apparatus would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because both configurations provide adequate flame arrest function.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 2,068,421 to Long et al as applied to claim 6 above, and further in view of JP403054354A for the same reasons as set forth in the last Office action. The use of fins is well known as disclosed by JP403054354A and the use thereof in the Long et al device would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the fins provide a greater degree of heat transfer to the element array.

Art Unit: 1725

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 2,068,421 to Long et al as applied to claim 1 above, and further in view of USPN 5,331,943 to Ko for the same reasons as set forth in the last Office action. Ko discloses (Figures 14(A) and 14(B)) the use of a scraper. The use of a scraper in a rod or tube array would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the scraper provides a clear flow passage and provides good heat transfer surface. The scraper described by Ko is a manual device.

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 2,068,421 to Long et al in view of USPN 5,331,943 to Ko as applied to claim 10 above, and further in view of USPN 4,437,968 to Elliott, Jr. for the same reasons as set forth in the last Office action. Elliott, Jr. disclose (column 11, lines 49-60) the use of a timer controlled scraper. The use of a timer controlled scraper in a tube or rod apparatus such as disclosed by Long et al as modified by Ko would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the timer provides automated cleaning and reduces manual monitoring.

Response to Arguments

Applicant's arguments filed October 24, 2005 have been fully considered but they are not persuasive.

Applicant argues FR526178A teaches away from the two dimensional array. This argument, against the references individually, is not convincing because one cannot show nonobviousness by attacking references individually where the rejections

Art Unit: 1725

are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). FR526178A and Long et al both disclose arrays. The tube spacing is not the same in both references, but both are arrayed and the spacing would have been obvious because the use of arrays is very well known from these old references.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both references are drawn to arrayed flame arresters.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 1725


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel M. Heinrich whose telephone number is 571-272-1175. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, P. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1725

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Samuel M Heinrich
Primary Examiner
Art Unit 1725

SMH